

EXP-10

Group A2

- a. Design a Switch Controlled Binary Random Up-Down Counter Using J-K Flip-Flop for the Following Sequence:

If S=0, DOWN: 3 \leftarrow 0 \leftarrow 5 \leftarrow 2 \leftarrow 4

If S=1, UP: 3 \rightarrow 0 \rightarrow 5 \rightarrow 2 \rightarrow 4 \rightarrow 3

- b. Design a 4-Bit Synchronous DOWN Counter Using T Flip-Flop.
- c. Design a BCD Ripple UP Counter using D Flip-Flop.